OIPE

ERROR DETECTED	SUGGESTED CORRECTION	SERIAL NUMBER: 10 072, 809

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

1_____Wrapped Nucleics
Wrapped Aminos

The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."

2_____Invalid Line Length

The rules require that a line not exceed 72 characters in length. This includes white spaces.

3_____Misaligned Amino
Numbering

The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.

4_____Non-ASCII

The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.

5_____Variable Length

Sequence(s)_____contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.

6_____PatentIn 2.0
"bug"

A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) _____. Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. **This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.**

7_____Skipped Sequences
(OLD RULES)

Sequence(s) _____ missing. If intentional, please insert the following lines for each skipped sequence:
(2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
(i)   SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
This sequence is intentionally skipped

Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.

8_____Skipped Sequences
(NEW RULES)

Sequence(s) _____ missing. If intentional, please insert the following lines for each skipped sequence.
<210> sequence id number
<400> sequence id number
000

9_____Use of n's or Xaa's
(NEW RULES)

Use of n's and/or Xaa's have been detected in the Sequence Listing.
Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa; and which residue n or Xaa represents.

10 ___Invalid <213>
Response

Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence

11_____Use of <220>

Sequence(s) _____ missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32)   (Sec. 1.823 of Sequence Rules)

12_____PatentIn 2.0
"bug"

Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.

13_____Misuse of n

n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.

AMC/MH – Biotechnology Systems Branch – 08/21/2001

RAW SEQUENCE LISTING   DATE: 05/24/2002
PATENT APPLICATION: US/10/072,809   TIME: 12:06:02

Input Set : A:\PTO.DC.txt
Output Set: N:\CRF3\05242002\J072809.raw

     3 <110> APPLICANT: Anderson, Marilyn, A., Lay, Fung T., Heath, Robyn, L.
     5 <120> TITLE OF INVENTION: Plant-derived molecules and genetic sequences encoding same
and uses
     6   therefor
     8 <130> FILE REFERENCE: 18-01
C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/072,809
C--> 11 <141> CURRENT FILING DATE: 2002-05-01
    13 <150> PRIOR APPLICATION NUMBER: USSN 60/267,271
    14 <151> PRIOR FILING DATE: 2001-02-08
    16 <160> NUMBER OF SEQ ID NOS: 61
    18 <170> SOFTWARE: PatentIn version 3.0
    20 <210> SEQ ID NO: 1
    21 <211> LENGTH: 28
    22 <212> TYPE: DNA
    23 <213> ORGANISM: (primer)   — Invalid response, see error summary sheet item 10
    25 <400> SEQUENCE: 1
    26 ggaattccat atggctcgct ccttgtgc   28
    28 <210> SEQ ID NO: 2
    29 <211> LENGTH: 29
    30 <212> TYPE: DNA
    31 <213> ORGANISM(primer)
    33 <400> SEQUENCE: 2
    34 gcggatcctc agttatccat tatctcttc   29
    36 <210> SEQ ID NO: 3
    37 <211> LENGTH: 24
    38 <212> TYPE: DNA
    39 <213> ORGANISM: (primer)
    41 <400> SEQUENCE: 3
    42 ccggatccag agaatgcaaa acag   24
    44 <210> SEQ ID NO: 4
    45 <211> LENGTH: 26
    46 <212> TYPE: DNA
    47 <213> ORGANISM: (primer)
    49 <400> SEQUENCE: 4
    50 gggagctctt agttatccat tatctc   26
    52 <210> SEQ ID NO: 5
    53 <211> LENGTH: 31
    54 <212> TYPE: DNA
    55 <213> ORGANISM: (primer)
    57 <400> SEQUENCE: 5
    58 ggaattctaa acaatggctc gctccttgtg c   31
    60 <210> SEQ ID NO: 6
    61 <211> LENGTH: 29
    62 <212> TYPE: DNA

RAW SEQUENCE LISTING   DATE: 05/24/2002
PATENT APPLICATION: US/10/072,809   TIME: 12:06:02

Input Set : A:\PTO.DC.txt
Output Set: N:\CRF3\05242002\J072809.raw

63 <213> ORGANISM: primer
65 <400> SEQUENCE: 6
66 gctctagatc agttatccat tatctcttc   29
68 <210> SEQ ID NO: 7
69 <211> LENGTH: 141
70 <212> TYPE: DNA
71 <213> ORGANISM: Nicotiana alata
73 <220> FEATURE:
74 <221> NAME/KEY: CDS
75 <222> LOCATION: (1)..(141)
77 <400> SEQUENCE: 7
78 aga gaa tgc aaa aca gaa agc aac aca ttt cct gga ata tgc att acc   48
79 Arg Glu Cys Lys Thr Glu Ser Asn Thr Phe Pro Gly Ile Cys Ile Thr
80 1   5   10   15
82 aaa cca cca tgc aga aaa gct tgt atc agt gag aaa ttt act gat ggt   96
83 Lys Pro Pro Cys Arg Lys Ala Cys Ile Ser Glu Lys Phe Thr Asp Gly
84   20   25   30
86 cat tgt agc aaa atc ctc aga agg tgc cta tgt act aag cca tgt   141
87 His Cys Ser Lys Ile Leu Arg Arg Cys Leu Cys Thr Lys Pro Cys
88   35   40   45
90 <210> SEQ ID NO: 8
91 <211> LENGTH: 47
92 <212> TYPE: PRT
93 <213> ORGANISM: Nicotiana alata
95 <400> SEQUENCE: 8
96 Arg Glu Cys Lys Thr Glu Ser Asn Thr Phe Pro Gly Ile Cys Ile Thr
97 1   5   10   15
99 Lys Pro Pro Cys Arg Lys Ala Cys Ile Ser Glu Lys Phe Thr Asp Gly
100   20   25   30
102 His Cys Ser Lys Ile Leu Arg Arg Cys Leu Cys Thr Lys Pro Cys
103   35   40   45
105 <210> SEQ ID NO: 9
106 <211> LENGTH: 75
107 <212> TYPE: DNA
108 <213> ORGANISM: Nicotiana alata
110 <220> FEATURE:
111 <221> NAME/KEY: CDS
112 <222> LOCATION: (1)..(75)
114 <400> SEQUENCE: 9
115 atg gct cgc tcc ttg tgc ttc atg gca ttt gct atc ttg gca agg atg   48
116 Met Ala Arg Ser Leu Cys Phe Met Ala Phe Ala Ile Leu Ala Arg Met
117 1   5   10   15
119 ctc ttt gtt gcc tat gag gtg caa gct   75
120 Leu Phe Val Ala Tyr Glu Val Gln Ala
121   20   25
123 <210> SEQ ID NO: 10
124 <211> LENGTH: 25
125 <212> TYPE: PRT
126 <213> ORGANISM: Nicotiana alata

RAW SEQUENCE LISTING   DATE: 05/24/2002
PATENT APPLICATION: US/10/072,809   TIME: 12:06:02

Input Set : **A:\PTO.DC.txt**
Output Set: **N:\CRF3\05242002\J072809.raw**

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128 <400> SEQUENCE: 10
129 Met Ala Arg Ser Leu Cys Phe Met Ala Phe Ala Ile Leu Ala Arg Met
130 1               5                   10                  15
132 Leu Phe Val Ala Tyr Glu Val Gln Ala
133             20                  25
135 <210> SEQ ID NO: 11
136 <211> LENGTH: 99
137 <212> TYPE: DNA
138 <213> ORGANISM: Nicotiana alata
140 <220> FEATURE:
141 <221> NAME/KEY: CDS
142 <222> LOCATION: (1)..(99)
144 <400> SEQUENCE: 11
145 gtg ttt gat gag aag atg act aaa aca gga gct gaa att ttg gct gag        48
146 Val Phe Asp Glu Lys Met Thr Lys Thr Gly Ala Glu Ile Leu Ala Glu
147 1               5                   10                  15
149 gaa gca aaa act ttg gct gca gct ttg ctt gaa gaa gag ata atg gat        96
150 Glu Ala Lys Thr Leu Ala Ala Ala Leu Leu Glu Glu Glu Ile Met Asp
151             20                  25                  30
153 aac                                                                    99
154 Asn
156 <210> SEQ ID NO: 12
157 <211> LENGTH: 33
158 <212> TYPE: PRT
159 <213> ORGANISM: Nicotiana alata
161 <400> SEQUENCE: 12
162 Val Phe Asp Glu Lys Met Thr Lys Thr Gly Ala Glu Ile Leu Ala Glu
163 1               5                   10                  15
165 Glu Ala Lys Thr Leu Ala Ala Ala Leu Leu Glu Glu Glu Ile Met Asp
166             20                  25                  30
168 Asn
170 <210> SEQ ID NO: 13
171 <211> LENGTH: 216
172 <212> TYPE: DNA
173 <213> ORGANISM: Nicotiana alata
175 <220> FEATURE:
176 <221> NAME/KEY: CDS
177 <222> LOCATION: (1)..(216)
179 <400> SEQUENCE: 13
180 atg gct cgc tcc ttg tgc ttc atg gca ttt gct atc ttg gca agg atg        48
181 Met Ala Arg Ser Leu Cys Phe Met Ala Phe Ala Ile Leu Ala Arg Met
182 1               5                   10                  15
184 ctc ttt gtt gcc tat gag gtg caa gct aga gaa tgc aaa aca gaa agc        96
185 Leu Phe Val Ala Tyr Glu Val Gln Ala Arg Glu Cys Lys Thr Glu Ser
186             20                  25                  30
188 aac aca ttt cct gga ata tgc att acc aaa cca cca tgc aga aaa gct       144
189 Asn Thr Phe Pro Gly Ile Cys Ile Thr Lys Pro Pro Cys Arg Lys Ala
190             35                  40                  45
192 tgt atc agt gag aaa ttt act gat ggt cat tgt agc aaa atc ctc aga       192
```

```
193 Cys Ile Ser Glu Lys Phe Thr Asp Gly His Cys Ser Lys Ile Leu Arg
194     50                  55                  60
196 agg tgc cta tgt act aag cca tgt                                    216
197 Arg Cys Leu Cys Thr Lys Pro Cys
198 65                  70
200 <210> SEQ ID NO: 14
201 <211> LENGTH: 72
202 <212> TYPE: PRT
203 <213> ORGANISM: Nicotiana alata
205 <400> SEQUENCE: 14
206 Met Ala Arg Ser Leu Cys Phe Met Ala Phe Ala Ile Leu Ala Arg Met
207 1               5                   10                  15
209 Leu Phe Val Ala Tyr Glu Val Gln Ala Arg Glu Cys Lys Thr Glu Ser
210             20                  25                  30
212 Asn Thr Phe Pro Gly Ile Cys Ile Thr Lys Pro Pro Cys Arg Lys Ala
213         35                  40                  45
215 Cys Ile Ser Glu Lys Phe Thr Asp Gly His Cys Ser Lys Ile Leu Arg
216     50                  55                  60
218 Arg Cys Leu Cys Thr Lys Pro Cys
219 65                  70
221 <210> SEQ ID NO: 15
222 <211> LENGTH: 240
223 <212> TYPE: DNA
224 <213> ORGANISM: Nicotiana alata
226 <220> FEATURE:
227 <221> NAME/KEY: CDS
228 <222> LOCATION: (1)..(240)
230 <400> SEQUENCE: 15
231 aga gaa tgc aaa aca gaa agc aac aca ttt cct gga ata tgc att acc     48
232 Arg Glu Cys Lys Thr Glu Ser Asn Thr Phe Pro Gly Ile Cys Ile Thr
233 1               5                   10                  15
235 aaa cca cca tgc aga aaa gct tgt atc agt gag aaa ttt act gat ggt     96
236 Lys Pro Pro Cys Arg Lys Ala Cys Ile Ser Glu Lys Phe Thr Asp Gly
237             20                  25                  30
239 cat tgt agc aaa atc ctc aga agg tgc cta tgt act aag cca tgt gtg    144
240 His Cys Ser Lys Ile Leu Arg Arg Cys Leu Cys Thr Lys Pro Cys Val
241         35                  40                  45
243 ttt gat gag aag atg act aaa aca gga gct gaa att ttg gct gag gaa    192
244 Phe Asp Glu Lys Met Thr Lys Thr Gly Ala Glu Ile Leu Ala Glu Glu
245     50                  55                  60
247 gca aaa act ttg gct gca gct ttg ctt gaa gaa gag ata atg gat aac    240
248 Ala Lys Thr Leu Ala Ala Ala Leu Leu Glu Glu Glu Ile Met Asp Asn
249 65                  70                  75                  80
251 <210> SEQ ID NO: 16
252 <211> LENGTH: 80
253 <212> TYPE: PRT
254 <213> ORGANISM: Nicotiana alata
256 <400> SEQUENCE: 16
257 Arg Glu Cys Lys Thr Glu Ser Asn Thr Phe Pro Gly Ile Cys Ile Thr
```

RAW SEQUENCE LISTING   DATE: 05/24/2002
PATENT APPLICATION: US/10/072,809   TIME: 12:06:02

Input Set : A:\PTO.DC.txt
Output Set: N:\CRF3\05242002\J072809.raw

```
258 1              5                    10                  15
260 Lys Pro Pro Cys Arg Lys Ala Cys Ile Ser Glu Lys Phe Thr Asp Gly
261            20                    25                  30
263 His Cys Ser Lys Ile Leu Arg Arg Cys Leu Cys Thr Lys Pro Cys Val
264            35                    40                  45
266 Phe Asp Glu Lys Met Thr Lys Thr Gly Ala Glu Ile Leu Ala Glu Glu
267      50                    55                  60
269 Ala Lys Thr Leu Ala Ala Ala Leu Leu Glu Glu Glu Ile Met Asp Asn
270 65                   70                   75                  80
272 <210> SEQ ID NO: 17
273 <211> LENGTH: 541
274 <212> TYPE: DNA
275 <213> ORGANISM: Nicotiana alata
277 <220> FEATURE:
278 <221> NAME/KEY: CDS
279 <222> LOCATION: (1)..(318)
281 <400> SEQUENCE: 17
282 atg gct cgc tcc ttg tgc ttc atg gca ttt gct atc ttg gca agg atg      48
283 Met Ala Arg Ser Leu Cys Phe Met Ala Phe Ala Ile Leu Ala Arg Met
284 1              5                    10                  15
286 ctc ttt gtt gcc tat gag gtg caa gct aga gaa tgc aaa aca gaa agc      96
287 Leu Phe Val Ala Tyr Glu Val Gln Ala Arg Glu Cys Lys Thr Glu Ser
288            20                    25                  30
290 aac aca ttt cct gga ata tgc att acc aaa cca cca tgc aga aaa gct     144
291 Asn Thr Phe Pro Gly Ile Cys Ile Thr Lys Pro Pro Cys Arg Lys Ala
292            35                    40                  45
294 tgt atc agt gag aaa ttt act gat ggt cat tgt agc aaa atc ctc aga     192
295 Cys Ile Ser Glu Lys Phe Thr Asp Gly His Cys Ser Lys Ile Leu Arg
296      50                    55                  60
298 agg tgc cta tgt act aag cca tgt gtg ttt gat gag aag atg act aaa     240
299 Arg Cys Leu Cys Thr Lys Pro Cys Val Phe Asp Glu Lys Met Thr Lys
300 65                   70                   75                  80
302 aca gga gct gaa att ttg gct gag gaa gca aaa act ttg gct gca gct     288
303 Thr Gly Ala Glu Ile Leu Ala Glu Glu Ala Lys Thr Leu Ala Ala Ala
304            85                    90                  95
306 ttg ctt gaa gaa gag ata atg gat aac taa ttagagatta gaagaaatta      338
307 Leu Leu Glu Glu Glu Ile Met Asp Asn
308            100                   105
310 aggatgcagt atcacacata ataaagtttc tacctttctt aaaagtgtag ctaatgttgt     398
312 gttttaattg gctttagta gcctttattt acactttaaa taagtgtggc acttcaatcc      458
314 tttgtgcaat cttgcactaa gtttatttgt gtacttttaa tgaaaatgac cttctatggt     518
316 ctttggttaa aaaaaaaaaa aaa                                          541
318 <210> SEQ ID NO: 18
319 <211> LENGTH: 105
320 <212> TYPE: PRT
321 <213> ORGANISM: Nicotiana alata
323 <400> SEQUENCE: 18
324 Met Ala Arg Ser Leu Cys Phe Met Ala Phe Ala Ile Leu Ala Arg Met
325 1              5                    10                  15
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 05/24/2002
PATENT APPLICATION: US/10/072,809   TIME: 12:06:03

Input Set : **A:\PTO.DC.txt**
Output Set: **N:\CRF3\05242002\J072809.raw**

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:58; Xaa Pos. 1,2,4,5,6,8,9,11,13,15,16,17,18,19,21,22,23,25,26,28,30
Seq#:58; Xaa Pos. 31,33,35,36,37,38,39,40,42,45,46
Seq#:59; Xaa Pos. 2,3,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23
Seq#:59; Xaa Pos. 24,25,26,27,28,29,30,32
Seq#:60; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:60; Xaa Pos. 23,24,25,26,27,28,29,30,31,32,33
Seq#:61; Xaa Pos. 2,3,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23
Seq#:61; Xaa Pos. 24,25,26,27,28,29,30,32,33,34,36,37,38,40,41,43,45,47,48
Seq#:61; Xaa Pos. 49,50,51,53,54,55,57,58,60,62,63,65,67,68,69,70,71,72,74
Seq#:61; Xaa Pos. 77,78,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96
Seq#:61; Xaa Pos. 97,98,99,100,101,102,103,104,105,106,107,108,109,110,111
Seq#:61; Xaa Pos. 112

VERIFICATION SUMMARY   DATE: 05/24/2002
PATENT APPLICATION: US/10/072,809   TIME: 12:06:03

Input Set : **A:\PTO.DC.txt**
Output Set: **N:\CRF3\05242002\J072809.raw**

L:10 M:270 C: Current Application Number differs, Replaced Current Application Number
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:1348 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:58 after pos.:0
L:1351 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:58 after pos.:16
L:1354 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:58 after pos.:32
L:1508 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59 after pos.:0
L:1511 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59 after pos.:16
L:1685 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60 after pos.:0
L:1688 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60 after pos.:16
L:1691 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60 after pos.:32
L:2169 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:0
L:2172 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:16
L:2175 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:32
L:2178 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:48
L:2181 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:64
L:2184 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:80
L:2187 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:96